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(54) Semiconductor light-emitting device and method for manufacture thereof

(57) A device with a low resistance zone having confinement, superior reproducibility, and a very high yield comprises a plurality of semiconductor layers, wherein layer resistivity is changed by annealing. The semiconductor layers include a low resistance zone (44) having a high activation coefficient of acceptor impurities and

a high resistance region (45) having a low activation coefficient of acceptor impurities. The activation coefficient is controlled by irradiation with laser light. In addition, laser light is irradiated and absorbed into the semiconductor layers in one part of, or the entire, semiconductor layers, such that layer resistivity in the irradiated regions is changed by annealing resulting from such irradiation.

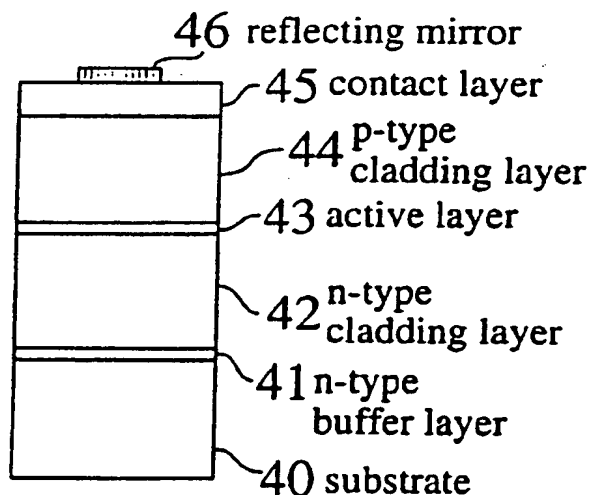


Fig. 6(A)

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## EUROPEAN SEARCH REPORT

Application Number  
EP 96 30 0297

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	EP 0 541 373 A (NICHIA KAGAKU KOGYO KK) 12 May 1993 * column 9, line 13 - column 11, line 57 *	1-3,9	H01L33/00 H01S3/19
A	PATENT ABSTRACTS OF JAPAN vol. 009, no. 208 (E-338), 24 August 1985 & JP 60 072287 A (MATSUSHITA DENKI SANGYO KK), 24 April 1985, * abstract *	1-3,5-10	
A	PATENT ABSTRACTS OF JAPAN vol. 005, no. 044 (E-050), 24 March 1981 & JP 55 166975 A (FUJITSU LTD), 26 December 1980, * abstract *	1-3,5-10	
A	SOVIET TECHNICAL PHYSICS LETTERS, AUG. 1987, USA, vol. 13, no. 8, ISSN 0360-120X, pages 380-382, XP002028613 GLADUSHCHAK V I ET AL: "Low-threshold heterostructure injection lasers with electrical confinement, produced by a pulsed laser technique"	1-3,5-10	
A	WO 85 02495 A (AMERICAN TELEPHONE & TELEGRAPH) 6 June 1985 -----	1,2,9	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 3 April 1997	Examiner De Laere, A
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		I : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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